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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,777	10/17/2003	Boy-Chy Wang	PPG 1892A1	9538

7590 05/23/2005

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EXAMINER	
GRAY, JILL M	

ART UNIT	PAPER NUMBER
1774	

DATE MAILED: 05/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/688,777	WANG, BOY-CHY	
	Examiner	Art Unit	
	Jill M. Gray	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The rejection of claims 1-4, 8-12, 15, 23-26, 28, 30-34, 45, and 47 under 35 U.S.C. 102(b) as being anticipated by Fahey 4,259,190 is withdrawn upon further consideration.

The rejection of claims 13-14, 16-22, 35-36, 38-44 and 47-51 under 35 U.S.C. 103(a) as being unpatentable over Fahey 4,259,190 is withdrawn upon further consideration.

Allowable Subject Matter

1. The indicated allowability of claims 5-7 and 27-29 is withdrawn in view of the newly discovered reference(s) to Lawton et al, 5,773,146 and US 2002/0051882 A1. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 8-18, 23-26, 30-40, and 45 rejected under 35 U.S.C. 102(b) as being anticipated by Lawton et al, 5,773,146 (Lawton).

Claims 1-4 and 23-26 are product-by-process claims. Even though product-by-process claims are limited by and defined by the process, determination of patentability

is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Accordingly, claims 1-4 are drawn to a size composition comprising a starch mixture comprising a high viscosity starch and a low viscosity starch and claims 23-26 are drawn to a glass fiber at least partially coated with the residue of a sizing composition comprising a starch mixture comprising a high viscosity starch and a low viscosity starch.

Lawton teaches an aqueous sizing composition for glass fibers comprising a mixture of a high viscosity starch and a low viscosity starch and glass fibers coated therewith, as required by claims 1-4, 23-26, and 45. See abstract and column 5, lines 37-38. Lawton also teaches that the composition further comprises an emulsifier, an alkyl imidazoline cationic lubricant, a gamma-glycidoxypropyltrimethoxysilane silane, biocide, and defoamer, as required by claims 8-14 and 30-36. See column 7, line 57, column 8, lines 37 and 54, column 11, lines 38-39, and column 12, line 41. In addition, Lawton teaches that a non-ionic lubricants can be added, said non-ionic lubricant including oils and esters formed from reacting a monocarboxylic acid and a monohydridic alcohol, per claims 15 and 37, wherein the esters have a melting point within applicants' range as claimed in claims 16 and 38 and the monocarboxylic acid and monohydric alcohol are each of the type contemplated by applicants in claims 17-18 and 39-40. See column 6, lines 48-55, column 7, lines 16-35, and column 11, line 54.

Therefore, the prior art teachings of Lawton, '146 anticipate the invention as claimed in present claims 1-4, 8-18, 23-26, 30-40, and 45.

3. Claims 1-4, 8-20, 23-26, 30-42, and 45-51 are rejected under 35 U.S.C. 102(b) as being anticipated by Lawton et al, US2002/0051882 A1 (Lawton).

Claims 1-4 and 23-26 are product-by-process claims. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Accordingly, claims 1-4 are drawn to a size composition comprising a starch mixture comprising a high viscosity starch and a low viscosity starch and claims 23-26 are drawn to a glass fiber at least partially coated with the residue of a sizing composition comprising a starch mixture comprising a high viscosity starch and a low viscosity starch.

Lawton teaches an aqueous sizing composition for glass fibers comprising a mixture of a high viscosity starch and a low viscosity starch and glass fibers coated therewith, as required by claims 1-4, 23-26, and 45. See abstract and [0030]. Lawton also teaches that his sizing composition contains an emulsifier, an alkylimidazoline cationic lubricant, biocide, gamma-glycidoxypropyltrimethoxy silane coupling agent, and defoamer, as required by claims 8-14 and 30-36. See [0100], [0101], [0104], [0106], and [0114]. In addition, Lawton teaches that lubricants including waxes and oils can be used and include esters formed from reacting a monocarboxylic acid and a monohydric

alcohol, wherein the monocarboxylic acid and monohydric alcohol are of the type contemplated by applicants in claims 15-20 and 37-42. See [0095]. Moreover, Lawton teaches that these lubricious materials are present in an amount ranging from 5 to 50 weight percent, as required by claims 21 and 43. See [0098]. As to claims 45-46, Lawton teaches that the glass strands comprise a plurality of glass fibers having a diameter within the claimed range and that his strands can comprise from 200 to 800 glass fibers. See [0129] and Table C. Regarding claims 47-48 and 40-51, Lawton teaches that a method of producing an at least partially coated glass fiber comprising his sizing composition, further teaching that the glass strands can be twisted or non-twisted. See [0131] and [0132]. In addition, Lawton teaches a method the comprises weaving the glass fibers using an air jet loom, whereby warp yarns are fed into a loom to form a shed and fill yarns are fed into the shed formed by the warp yarns. See [0132] and [0133]. Regarding claim 49, Lawton teaches glass fiber strands having the same dimensions as required by applicants. See Table C.

Therefore, the prior art teachings of Lawton, US 2002/0051882 A1 anticipate the invention as claimed in present claims 1-4, 8-20, 23-26, 30-42, and 45-51.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 5-7, 22, 27-29, 44, and 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawton et al, 5,773,146 (Lawton '146) and Lawton et al, US 2002/005882 A1 (Lawton '882).

Regarding claims 5-7, 27-29, and 52-53, Lawton '146 and '882 are as set forth above but do not specifically teach a sizing composition wherein both the high viscosity starch and low viscosity starch have an amylase content >50%. Nonetheless, Lawton '146 and '882 teaches the formation of blends comprising a high viscosity starch and low viscosity starch. This teaching would have provided a suggestion to the skilled artisan that other high viscosity starches could be blended with low viscosity starches with the reasonable expectation of success of forming an aqueous sizing composition having such advantages of minimum fuzz and low broken filaments. Moreover, since the suggested blends of Lawton each include HI-SET 369, a low viscosity starch, it would have been obvious to the skilled artisan at the time the invention was made to select other high viscosity starches taught by Lawton, such as HYBOND (a high viscosity, high amylose starch), to blend with said low viscosity starch, with the reasonable expectation of obtaining a blend suitable for an aqueous sizing composition and that would result in said advantageous properties associated therewith. As to claims 6 and 28, the amounts of each component taught by Lawton would have rendered obvious the instant claimed ratios. See '146, column 5, lines 21-55 and '882 [0027] and [0029]. Regarding claims 22 and 44, it is the examiner's position that since the result sought and the ingredients used were known, it was within the expected skills

of one having ordinary skill in this art to arrive at the optimum proportion of those ingredients.

Therefore, the prior art teachings of Lawton et al, 5,773,146 and US 2002/0051882 A1 would have rendered obvious the invention as claimed in present claims 5-7, 27-29, and 52-53.

Response to Arguments

6. Applicant's arguments with respect to claims 1-51 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill M. Gray whose telephone number is 571-272-1524. The examiner can normally be reached on M-Th and alternate Fridays 10:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jill M. Gray

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